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SYNOPSIS OF SECTION *AXILLARIS* OF *SALVIA* (LAMIACEAE)

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ABSTRACT

The wholly Mexican sect. *Axillaris* Epling of the genus *Salvia* is revised. It is treated as having a single species, *S. axillaris* Benth., with three morphogeographical infraspecific units: var. *axillaris* of southern Puebla and closely adjacent Oaxaca; var. ***hidalgoana*** B.L. Turner, *var. nov.*, of southern Hidalgo; and var. ***potosina*** B.L. Turner, *var. nov.*, of Durango, Zacatecas, Aguascalientes, San Luis Potosí, Guanajuato, Querétaro, and southwestern Hidalgo. An illustration of the species and a key to the varieties is provided, along with a map showing their distributions.

KEY WORDS: *Salvia*, sect. *Axillaris*, Lamiaceae, México, systematics

Attempts to identify various species of *Salvia* from México has led to the detailed examination of *S. axillaris* Benth., a very distinct species which was treated by Epling (1937) as belonging to the monotypic section *Axillaris*. Results of this investigation follow.

SECTION AXILLARIS Epling (1937)

Subsection *Axilliflorae* Benth., *Lab. Gen. et Sp.* 270. 1833.

SALVIA AXILLARIS Moc. & Sesse *ex* Benth., *Lab. Gen. et Sp.* 270. 1833.

My inclusive description of this species is about the same as that provided by Epling (1937) and no redescription is needed here. I have, however, recognized three morphogeographical varietal elements within the taxon. Some workers might prefer to treat these as distinct species, especially since they occupy different noncontiguous ecogeographical settings and scarcely can be said to intergrade. There can be no

question, however, that these several taxa might not be more closely related one to the other than to yet other species.

KEY TO VARIETIES

1. Filaments of stamens pubescent with coarse hairs; stem vestiture of mostly eglandular spreading hairs. ..... var. *potosina*
1. Filaments of stamens glabrous (rarely a few basal hairs); stem vestiture of long glandular hairs, or short eglandular, mostly down-curved or arcuate hairs.
   2. Vestiture at midstem mostly composed of spreading glandular trichomes 0.3-0.5 mm high; midstem leaves weakly nervate, mostly 5-7 mm long, 2-3 times as long as wide; Hidalgo. ..... var. *hidalgoana*
   2. Vestiture at midstem composed of short up-curved or down-curved eglandular hairs 0.1-0.2(-0.3) mm high; midstem leaves strongly nervate, 6-12 mm long, 3-5 times as long as wide; s Puebla and n Oaxaca..... var. *axillaris*

SALVIA AXILLARIS Moc. & Sesse *ex* Benth. var. *AXILLARIS* Figure 1.

Salvia axillaris Moc. & Sesse *ex* Benth., *Lab. Gen. et Sp.* 270. 1833. TYPE: MEXICO. Puebla: rocky soils near Tepeaca, 1787-1804, *Sesse & Mocino 188* (HOLOTYPE: Lambert herbarium; Isotype fragment: F!).

Salvia cuneifolia Benth., *Lab. Gen. et Sp.* 270. 1833. TYPE: MEXICO. Oaxaca: w/o locality or date, *Karwinski s.n.* According to Epling (1939), who treated *S. cuneifolia* as synonymous with *S. axillaris*, the type of this taxon is in the Herbarium at Monaco.

I have examined 25 sheets of this variety (10 from Puebla; 15 from Oaxaca, as mapped in Figure 2) and, except for *Dorado F-2886* (MICH), all had glabrous stamens, strongly nervate linear-oblanceolate leaves (except for juvenile or leaf-litter leaves), and vestiture of stems with short, mostly eglandular hairs 0.1-0.2(-0.3) mm high.

SALVIA AXILLARIS Moc. & Sesse *ex* Benth. var. ***HIDALGOANA*** B.L. Turner, *var. nov.* TYPE: MEXICO. Hidalgo: bare hills above Pachuca, 18 Jul 1898, *C.G. Pringle 6905* (HOLOTYPE: LL!; Isotypes: F!,UC!).

Differt *Salviae axillari* Moc. & Sesse *ex* Benth. var. *axillaris* habendo folia parviora et proportione latiora et indomentum calium cum trichomatibus glanduliferis effusis 0.3-0.5 mm altis.

REPRESENTATIVE SPECIMENS: MEXICO. Hidalgo: 17 mi W of Tulancingo (at village of Jalapillo) along highway 130, 27 Jul 1969, *Bierner & Turner 128* (TEX); 7 km N of Pachuca, 4 Aug 1963, *Galvan s.n.* (MICH); Sierra Pachuca, 9000 ft, 26

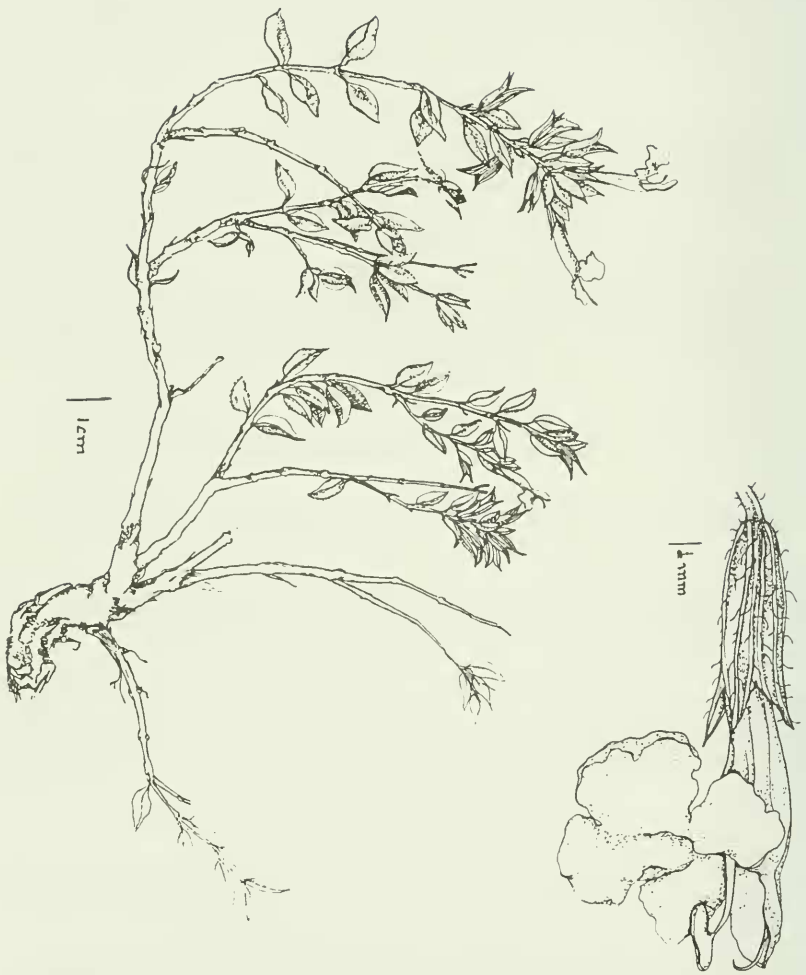

Figure 1. *Salvia axillaris* var. *axillaris* (Puebla: *Tenorio 14113* [TEX]).

Figure 2. Distribution of varieties of *Salvia axillaris*: var. *axillaris* (open triangles); var. *hidalgoana* (closed circles); var. *potosina* (open circles).

Aug 1902 (?), *Pringle 11114* (GH,MICH); Sierra de Pachuez, 21-22 Jul 1901, *Rose & Hay 5632* (UC); 2 km S of Epazoyucan, 1 Aug 1971, *Rzedowski 28311* (MICH); 3 km SE of Epazoyucan, 19 Jul 1963, *Rzedowski 16909* (MICH). Veracruz: "cerros arriba de Santiago", 20 Jul 1971, *Nevling & Gomez-Pompa 1866* (F,MEXU).

Epling (1937) included the type of this taxon in his concept of *Salvia axillaris*. Both of the above cited collections have glabrous filaments, much as var. *axillaris*, but possess smaller, less venose leaves, and glandular-pubescent stems and foliage. Indeed, were it not for the glabrous filaments of var. *hidalgoana*, I would probably have recognized var. *potosina* as specifically distinct, since the former more or less links the latter with var. *axillaris*.

SALVIA AXILLARIS Moc. & Sesse *ex* Benth. var. ***POTOSINA*** B.L. Turner, *var. nov.* TYPE: MEXICO. Guanajuato: Mpio. San Felipe Torresmochas, Sierra El Cubo, 5 km E de El Cubo, 2370 m, 5 Oct 1979, *J. Garcia P., E.J. Lott, y A. Rebolledo V. 1168* (HOLOTYPE: TEX!; with 12 isotypes widely distributed [according to label data]).

Differt *Salviae axillari* Moc. & Sesse *ex* Benth. var. *axillaris* habendo stamina cum filamentis grosse pubescentibus (vice glaberorum) et indumentum calium cum pilis eglandulosis effusis 0.3 mm altis.

REPRESENTATIVE SPECIMENS: MEXICO. Aguascalientes: just E of Asientos, 4-8 Sep 1967, McVaugh 23666 (MICH). Durango: mountains S of La Purisima, 26 Aug 1939, *Shreve 9193* (GH,MICH,UC). Guanajuato: W of Guanajuato on the road to Cristo Rey (a shrine), 4 Oct 1974, *Robins 74119* (GH,TEX). Hidalgo: Napala, 1 Aug 1914, *Salasar s.n.* (MEXU). Querétaro: 15 mi SE of Querétaro, 6000 ft, 3 Aug 1956, *Fearing & Thompson 149* (TEX). San Luis Potosí: ca. 23 road mi N of Charcos, 7900 ft, 5 Sep 1971, *Henrickson 6408* (LL); 22 km SW of San Luis Potosí on the highway to Guadalajara, 2100-2300 m, *Johnston, et al. 12272a* (LL); SW of San Luis Potosí, 2 mi SW of dam on highway 80, 5 Jul 1971, *Verhoek-Williams, et al. 504* (TEX). Zacatecas: 2 mi W of Sombrerete, 26 Sep 1959, *Soderstrom 739* (MICH).

All of the above cited specimens possessed stamens with coarsely pubescent filaments and stems with a widely spreading vestiture of mostly eglandular hairs 0.3-0.8 mm high.

Epling (1937) included elements of the present variety in his concept of *Salvia axillaris*, to judge from his citations. As noted under var. *hidalgoana*, I would probably have considered var. *potosina* specifically distinct were it not for the former, which possesses the foliage of var. *potosina* but the staminal hairs of var. *axillaris*.

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